pa1106: Factoring with box when $a = $ prime (v3)

Example

Use the box to factor $2x^2 - 9x - 18$.

Guess and check, based on factor pairs of -18, until you find the pair that results in a linear coefficient of -9 after combining like terms.

*	x	−6
2x	2x^2	−12x
3	3x	−18

$2x^2 - 12x + 3x - 18$

Combine like terms.

$2x^2 - 9x - 18$

ANSWER: $(2x + 3)(x - 6)$

Question 1

Use the box to factor $3x^2 + 17x + 20$.

*	x	4
3x	3x^2	12x
5	5x	20

ANSWER: $(3x + 5)(x + 4)$

Question 2

Use the box to factor $5x^2 + 37x - 72$.

*	x	9
5x	$5x^2$	45x
-8	$-8x$	-72

ANSWER: $(5x - 8)(x + 9)$

Question 3

Use the box to factor $7x^2 - 72x + 81$.

*	x	-9
7x	$7x^2$	$-63x$
-9	$-9x$	81

ANSWER: $(7x - 9)(x - 9)$